

=> d 1-5

L2 ANSWER 1 OF 5 REGISTRY COPYRIGHT 2006 ACS on STN
RN 9051-98-3 REGISTRY
ED Entered STN: 16 Nov 1984
CN β -D-Glucan, (1 \rightarrow 4)- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN β -D-1 \rightarrow 4-Glucan
MF Unspecified
CI PMS, COM, MAN
PCT Manual registration
LC STN Files: AGRICOLA, BIOSIS, BIOTECHNO, CA, CAPLUS, EMBASE, IFICDB,
IFIPAT, IFIUDB, PIRA, TOXCENTER, USPATFULL

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

130 REFERENCES IN FILE CA (1907 TO DATE)
8 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
130 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L2 ANSWER 2 OF 5 REGISTRY COPYRIGHT 2006 ACS on STN
RN 9051-97-2 REGISTRY
ED Entered STN: 16 Nov 1984
CN β -D-Glucan, (1 \rightarrow 3)- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN (1,3)- β -Glucan
CN (1 \rightarrow 3)- β -D-Glucan
CN Adjuvax
CN Corapulan
CN Drieline
CN GL 32
CN Glucan F
CN Guardoran
CN Highcareen GS
CN ImmuStim
CN Poly(1 \rightarrow 3)- β -D-glucan
CN Polysaccharide 13140
CN SSG
CN TAK
CN TAK (polysaccharide)
CN TAK-N
CN Uniglucan 51
CN VitaStim
DR 9050-90-2, 9052-00-0, 130809-04-0, 31667-87-5, 199665-06-0
MF Unspecified
CI PMS, COM, MAN
PCT Manual registration
LC STN Files: ADISINSIGHT, AGRICOLA, ANABSTR, BIOSIS, BIOTECHNO, CA,
CAPLUS, CASREACT, CIN, CSNB, DDFU, DRUGU, EMBASE, IFICDB, IFIPAT,
IFIUDB, IMSDRUGNEWS, IMSRESEARCH, IPA, MEDLINE, PHAR, PROMT, RTECS*,
TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1412 REFERENCES IN FILE CA (1907 TO DATE)
145 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1415 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L2 ANSWER 3 OF 5 REGISTRY COPYRIGHT 2006 ACS on STN

RN 9041-22-9 REGISTRY

ED Entered STN: 16 Nov 1984

CN β -D-Glucan (9CI) (CA INDEX NAME)

OTHER NAMES:

CN β -Glucan

CN β -Glucosylglucan

CN Biopoly P 3

CN Borigasol

CN Epiglucan

CN Fibosel

CN GluCare N

MF Unspecified

CI PMS, COM, MAN

PCT Manual registration

LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BIOSIS, CA, CABA, CAPLUS,
CASREACT, CBNB, CHEMCATS, CIN, CSCHEM, CSNB, IFICDB, IFIPAT, IFIADB,
IPA, PIRA, PROMT, TOXCENTER, USPAT2, USPATFULL

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2451 REFERENCES IN FILE CA (1907 TO DATE)

87 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

2466 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L2 ANSWER 4 OF 5 REGISTRY COPYRIGHT 2006 ACS on STN

RN 83-46-5 REGISTRY

ED Entered STN: 16 Nov 1984

CN Stigmast-5-en-3-ol, (3 β)- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Nimbosterol (6CI)

CN Stigmast-5-en-3 β -ol (8CI)

OTHER NAMES:

CN (-)- β -Sitosterol

CN (24R)-Ethylcholest-5-en-3 β -ol

CN (24R)-Stigmast-5-en-3 β -ol

CN α -Dihydrofucosterol

CN α -Phytosterol

CN β -Sitosterin

CN β -Sitosterol

CN Δ^5 -Stigmasten-3 β -ol

CN 22,23-Dihydrostigmasterol

CN 24 α -Ethylcholesterol

CN Angelicin

CN Angelicin (steroid)

CN Azuprostat

CN Betaprostat

CN Cinchol

CN Cupreol

CN Harzol

CN NSC 18173

CN NSC 49083

CN NSC 8096

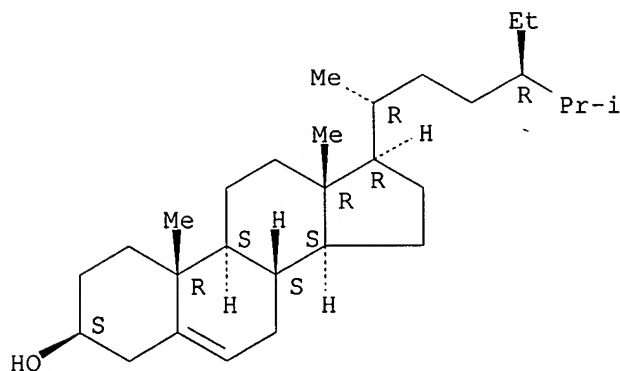
CN Prostatasol

CN Quebrachol

CN Rhammol

CN Rhamnol
 CN Sito-Lande
 CN SKF 14463
 CN Sobatum
 CN Stigmasterol, 22,23-dihydro-
 FS STEREOSEARCH
 DR 8003-23-4, 15764-35-9, 76772-70-8, 182512-23-8
 MF C29 H50 O
 CI COM
 LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOSIS,
 BIOTECHNO, CA, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX,
 CHEMLIST, CSCHEM, DDFU, DETHERM*, DRUGU, EMBASE, IFICDB, IFIPAT, IFIUDB,
 IPA, MRCK*, MSDS-OHS, NAPRALERT, PIRA, PROMT, PS, RTECS*, SCISEARCH,
 SPECINFO, TOXCENTER, ULIDAT, USPAT2, USPATFULL, VETU
 (*File contains numerically searchable property data)
 Other Sources: DSL**, EINECS**
 (**Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry.



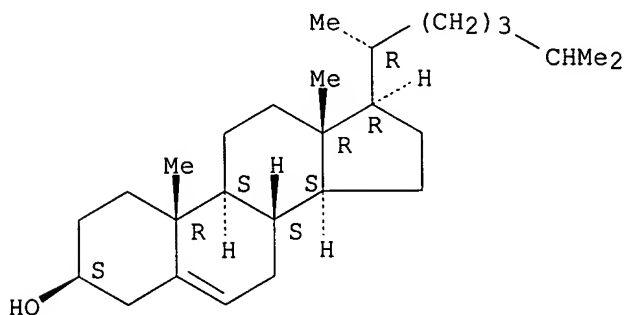
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

12151 REFERENCES IN FILE CA (1907 TO DATE)
 216 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 12201 REFERENCES IN FILE CAPLUS (1907 TO DATE)
 12 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L2 ANSWER 5 OF 5 REGISTRY COPYRIGHT 2006 ACS on STN
 RN 57-88-5 REGISTRY
 ED Entered STN: 16 Nov 1984
 CN Cholest-5-en-3-ol (3β)- (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN Cholesterol (8CI)
 OTHER NAMES:
 CN (-)-Cholesterol
 CN Δ5-Cholesten-3β-ol
 CN 3β-Hydroxycholest-5-ene
 CN 5:6-Cholesten-3β-ol
 CN Cholest-5-en-3β-ol
 CN Cholesterin
 CN Cholesteryl alcohol
 CN Dythol
 CN Lidinit

CN Lidinite
CN NSC 8798
CN Provitamin D
FS STEREOSEARCH
DR 849593-11-9, 856708-55-9, 732297-95-9, 793670-51-6, 80356-14-5,
80356-33-8, 209124-38-9, 218965-24-3, 262418-13-3, 378185-03-6,
676322-57-9
MF C27 H46 O
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*, BIOSIS, BIOTECHNO,
CA, CABA, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX,
CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DRUGU, EMBASE, GMELIN*,
HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT,
PIRA, PROMT, RTECS*, SCISEARCH, SPECINFO, TOXCENTER, TULSA, ULIDAT,
USAN, USPAT2, USPATFULL, VETU, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

116265 REFERENCES IN FILE CA (1907 TO DATE)
9965 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
116481 REFERENCES IN FILE CAPLUS (1907 TO DATE)
15 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> fil hcap

FILE 'HCAPLUS' ENTERED AT 16:43:42 ON 02 AUG 2006

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FILE COVERS 1907 - 2 Aug 2006 VOL 145 ISS 6
FILE LAST UPDATED: 1 Aug 2006 (20060801/ED)

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This file contains CAS Registry Numbers for easy and accurate
substance identification.

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129186 L2
L3 1 L1 AND L2

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L3 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:672622 HCAPLUS
DOCUMENT NUMBER: 143:146698
ENTRY DATE: Entered STN: 29 Jul 2005
TITLE: Compositions and methods for reducing cholesterol
INVENTOR(S): Khare, Anil B.
PATENT ASSIGNEE(S): Cargill, Inc., USA
SOURCE: U.S. Pat. Appl. Publ., 5 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
INT. PATENT CLASSIF.:
MAIN: A61K035-78
SECONDARY: A61K031-715; A61K031-56
US PATENT CLASSIF.: 424748000; 514054000; 514171000
CLASSIFICATION: 1-10 (Pharmacology)
Section cross-reference(s): 18
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005163872	A1	20050728	US 2004-763474	20040123 <--
WO 2005072761	A1	20050811	WO 2005-US1608	20050121 <--
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			

PRIORITY APPLN. INFO.: US 2004-763474 A 20040123 <--
PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2005163872	ICM	A61K035-78
	ICS	A61K031-715; A61K031-56
	INCL	424748000; 514054000; 514171000
	IPCI	A61K0035-78 [ICM,7]; A61K0031-715 [ICS,7]; A61K0031-56 [ICS,7]

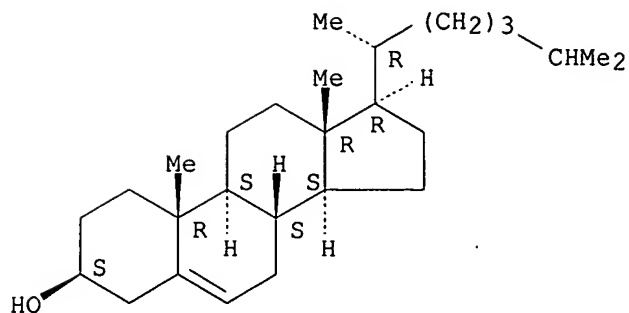
WO 2005072761 IPCR A23L0001-00 [I,A]; A23L0001-00 [I,C*]; A23L0002-00 [I,A]; A23L0002-00 [I,C*]; A61K0031-56 [I,A]; A61K0031-56 [I,C*]; A61K0031-715 [I,A]; A61K0031-715 [I,C*]
NCL 424/748.000
ECLA A23G009/42; A23L001/054C; A23L001/30B2; A23L001/308; A61K031/56+M; A61K031/715+M; A61K035/78+M
IPCI A61K0035-78 [ICM,7]; A61P0003-06 [ICS,7]; A61P0003-00 [ICS,7,C*]; A23L0001-00 [ICS,7]; A23L0002-00 [ICS,7]
IPCR A23L0001-00 [I,A]; A23L0001-00 [I,C*]; A23L0002-00 [I,A]; A23L0002-00 [I,C*]; A61K0031-56 [I,A]; A61K0031-56 [I,C*]; A61K0031-715 [I,A]; A61K0031-715 [I,C*]
ECLA A23G009/42; A23L001/054C; A23L001/30B2; A23L001/308; A61K031/56+M; A61K031/715+M; A61K035/78+M

ABSTRACT:

There are disclosed compns. comprising guggul and at least one of 1, 3:1, 4-beta-glucan or a beta-sitosterol-containing sterol mixture. The compns. are preferably suitable for reducing cholesterol level. Also disclosed are food and beverage compns. comprising the guggul-containing compns., that are preferably suitable for reducing cholesterol level. There is also disclosed a method for reducing cholesterol level comprising administering to a human or animal, an effective amount of the guggul-containing compns., or a food or beverage composition that comprises the guggul-containing compns.

SUPPL. TERM: anticholesteremic guggulu ext
INDEX TERM: Anticholesteremic agents
Human
(compns. and methods for reducing cholesterol)
INDEX TERM: Commiphora mukul
(extract; compns. and methods for reducing cholesterol)
INDEX TERM: Sterols
ROLE: PAC (Pharmacological activity); THU (Therapeutic use);
BIOL (Biological study); USES (Uses)
(β -sitosterol-containing mixture of; compns. and methods for reducing cholesterol)
INDEX TERM: 57-88-5, Cholesterol, biological studies
ROLE: BSU (Biological study, unclassified); BIOL (Biological study)
(compns. and methods for reducing cholesterol)
INDEX TERM: 83-46-5D, β -Sitosterol, -containing sterol mixture
9041-22-9, β -D-Glucan 9051-97-2,
1,3- β -Glucan 9051-98-3
ROLE: PAC (Pharmacological activity); THU (Therapeutic use);
BIOL (Biological study); USES (Uses)
(compns. and methods for reducing cholesterol)
IT 57-88-5, Cholesterol, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(compns. and methods for reducing cholesterol)
RN 57-88-5 HCAPLUS
CN Cholest-5-en-3-ol (3 β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 83-46-5D, β -Sitosterol, -containing sterol mixture

9041-22-9, β -D-Glucan 9051-97-2, 1,3- β -Glucan

9051-98-3

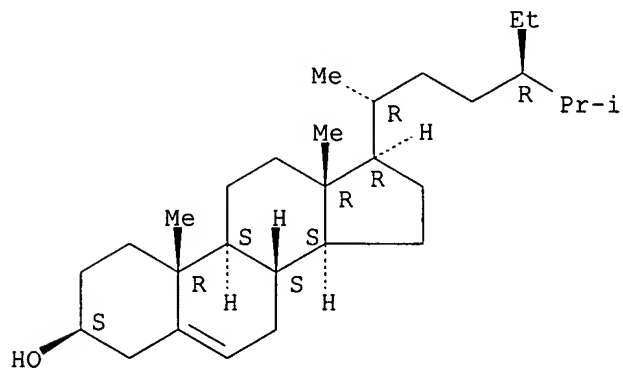
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(comps. and methods for reducing cholesterol)

RN 83-46-5 HCAPLUS

CN Stigmast-5-en-3-ol, (3 β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 9041-22-9 HCAPLUS

CN β -D-Glucan (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9051-97-2 HCAPLUS

CN β -D-Glucan, (1 \rightarrow 3)- (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9051-98-3 HCAPLUS

CN β -D-Glucan, (1 \rightarrow 4)- (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

Schulwitz 8-99

ACCESS DB # 197350
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Scientific and Technical Information Center

SEARCH REQUEST FORM

Requester's Full Name: Mike Mella Examiner #: 69404 Date: 8/2/06
Art Unit: 1655 Phone Number: 272-0967 Serial Number: 10/763,474
Location (Bldg/Room#): Rem 3007 (Mailbox #): 3018 Results Format Preferred (circle): PAPER DISK

To ensure an efficient and quality search, please attach a copy of the cover sheet, claims, and abstract or fill out the following:

Title of Invention: Compositions and methods for reducing doubletad.
Inventors (please provide full names): Anil B. Khare.

Earliest Priority Date: 1/23/04

Search Topic:

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc., if known.

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search guggul (which comes from Commiphora mukul) see attachment. Also when searching guggul search Commiphora mukul as an alternative to guggul. ~~it can't find anything with guggul~~. And combine that with the components with claim 2 and then claim 3. Thus, searching guggul + claim 2 and guggul plus claim 3. Also

C. Chan
Rush

amended
Case

STAFF USE ONLY

Staff Use Only	Type of Search	Vendors and cost where applicable
Searcher: _____	____ NA Sequence (#)	____ STN ____ Dialog
Searcher Phone #: _____	____ AA Sequence (#)	____ Questel/Orbit ____ Lexis/Nexis
Searcher Location: _____	____ Structure (#)	____ Westlaw ____ WWW/Internet
Date Searcher Picked Up: _____	____ Bibliographic	____ In-house sequence systems
Date Completed: _____	____ Litigation	____ Commercial ____ Oligomer ____ Score/Length
Searcher Prep & Review Time: _____	____ Fulltext	____ Interference ____ SPDI ____ Encode/Transl
Online Time: _____	____ Other	____ Other (specify)

CLAIMS

What is claimed is:

- 5 1. A composition comprising guggul and at least one or more components selected from the group consisting of 1, 3:1, 4 - beta - glucan and a beta-sitosterol-containing sterol mixture, wherein the guggul is present in an amount ranging from about 1% to about 99% by weight, based on the composition, and the at least one or more components is present in an amount ranging from about 1 % to about 99% by weight, based on the
10 composition.
2. The composition according to Claim 1 wherein the component is 1, 3:1, 4 - beta - glucan.
- 15 3. The composition according to Claim 1 wherein the component is a beta-sitosterol-containing sterol mixture.
4. The composition according to Claim 2 wherein the guggul is present in an amount ranging from about 5% to about 15% by weight, and the 1, 3:1, 4 - beta - glucan is
20 present in an amount ranging from about 85% to about 95% by weight.
5. The composition according to Claim 3 wherein the guggul is present in an amount ranging from about 5% to about 15% by weight, and the beta-sitosterol-containing sterol mixture is present in an amount ranging from about 85% to about 95% by weight.
25
6. The composition according to Claim 1 comprising guggul, 1, 3:1, 4- beta - glucan and a beta-sitosterol-containing sterol mixture, wherein the guggul is present in an amount ranging from about 7% to about 21% by weight, the 1, 3:1, 4 - beta - glucan is present in an amount ranging from about 40% to about 47% by weight, and the beta-

sitosterol-containing sterol mixture is present in an amount ranging from about 40% to about 47% by weight.

5 7. The composition according to Claim 1 wherein the guggul is present in an amount of about 10% by weight, and the at least one or more components is present in an amount of about 90% by weight.

10 8. The composition according to Claim 6 wherein the guggul is present in an amount of about 14% by weight, the 1, 3:1, 4 - beta - glucan is present in an amount of about 43% by weight, and the beta-sitosterol-containing sterol mixture is present in an amount of about 43% by weight.

15 9. A food composition comprising a food and a second composition according to Claim 1.

10. The food composition according to Claim 9 wherein the second composition comprises guggul and one component selected from the group consisting of 1, 3:1, 4 - beta - glucan and a beta-sitosterol-containing sterol mixture.

20 11. The food composition according to Claim 10 wherein the second composition is present in an amount ranging from greater than 0 to about 6 grams.

12. The food composition according to Claim 11 wherein the second composition is present in an amount ranging from about 2 to about 6 grams.

25 13. The food composition according to Claim 9 wherein the second composition comprises guggul, 1, 3:1, 4 - beta - glucan, and a beta-sitosterol-containing sterol mixture.

14. The food composition according to Claim 13 wherein the second composition is present in an amount ranging from greater than 0 to about 10 grams.
- 5 15. The food composition according to Claim 14 wherein the second composition is present in an amount ranging from about 5 to about 10 grams.
16. A beverage composition comprising a beverage and a second composition according to Claim 1.
- 10 17. The beverage composition according to Claim 16 wherein the second composition comprises guggul and one component selected from the group consisting of 1, 3:1, 4 - beta - glucan, and a beta-sitosterol-containing sterol mixture.
- 15 18. The beverage composition according to Claim 17 wherein the second composition is present in an amount ranging from greater than 0 to about 6 grams.
19. The beverage composition according to Claim 18 wherein the second composition is present in an amount ranging from about 2 to about 6 grams.
- 20 20. The beverage composition according to Claim 16 wherein the second composition comprises guggul, 1, 3:1, 4 - beta - glucan, and a beta-sitosterol-containing sterol mixture.
21. The beverage composition according to Claim 20 wherein the second composition is present in an amount ranging from greater than 0 to about 10 grams.
- 25 22. The beverage composition according to Claim 21 wherein the second composition is present in an amount ranging from about 5 to about 10 grams.

**COMPOSITIONS AND METHODS
FOR REDUCING CHOLESTEROL**

5

FIELD OF THE INVENTION

The present invention relates to compositions suitable for reducing cholesterol levels in humans and animals. The present invention also relates to methods for reducing cholesterol levels in humans and animals.

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BACKGROUND OF THE INVENTION

Guggul is a well known extract from the resin of the mukul myrrh tree (Commiphora mukul). Guggul has been used in the treatment of obesity and lipid disorders. Guggulipid, an ethyl acetate extract of the resin, has been used in the treatment of hyperlipidemia, and contains two compounds, E-guggulsterone and Z-guggulsterone, that decrease hepatic cholesterol levels.

15

Plant sterols are known to inhibit the absorption and/or reabsorption of cholesterol (external and recycled).

It would be desirable to have products that effectively reduce cholesterol levels in humans and animals, and methods for effectively reducing cholesterol levels in humans and animals.

20

Accordingly, it is an object of the present invention to provide compositions that are suitable for reducing cholesterol levels in humans and animals.

25

It is a further object of the present invention to provide food and beverage compositions that are suitable for reducing cholesterol levels in humans and animals.

It is a still further object of the present invention to provide methods for reducing cholesterol levels in humans and animals.

SUMMARY OF THE INVENTION

The present invention relates to compositions comprising guggul and at least one or more of a beta-sitosterol-containing sterol mixture, and 1, 3:1, 4 - beta - glucan.

30

The present invention also relates to food and beverage compositions comprising a food or beverage and a composition comprising guggul and at least one or more of a beta-sitosterol-containing sterol mixture, and 1, 3:1, 4 - beta - glucan.